



BUSINESS BROCHURE



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CHINA • LIAOYANG



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COMPANY PROFILE

Liaoning Wonlean Technology Co., Ltd. is a high-tech enterprise specializing in the development and application of ultra-high pressure water jet technology. Wonlean Technology and Chinese Academy of Sciences adopt deep strategic cooperation to devote to the development and application of ultra-high pressure water jet technology in China. We have made several technological breakthroughs, which have changed the situation that the core advanced technology of ultra-high pressure water jet has been monopolized by foreign countries. Through continuous innovation and practice, we have successfully applied the water jet technology to many industries and fields that have not been previously involved, and solved many existing cutting problems. As early as 2009, we began to manufacture high-performance ultra-high pressure waterjet cutting machine by batch and put an end to the situation of monopolizing core technology in foreign countries so that domestic users can also experience the advanced technology and convenient services.

In just a few years, our products have won all praise from our customers by advanced technology and reliable performance, so that Wonlean Technology not only spread all over the country, but also export to overseas. So far, our products have been exported to 46 countries and regions such as the United States, Germany, France, Russia, Africa, Australia, South America and so on. Wonlean Technology makes Chinese water jet technology on the world stage and also benefits to the people all over the world.

Liaoning Wonlean Technology is located in Liaoyang City, Liaoning Province, with an area of more than 20000 square meters. Relying on the strong technical force of the Chinese Academy of Sciences, we have more than 12 outstanding technical team including one doctor, three masters and 5 senior engineers. In the production line of Wonlean, we have a variety of advanced mechanical processing equipment and more than 100 people with rich experience in professional production team. Our strong technical force and production capacity will be your solid backing relying on our global sales and after-sales service network. Wonlean Technology will be your side of the waterjet cutting experts and we will provide you with professional waterjet cutting solutions.

MEMORABILIA

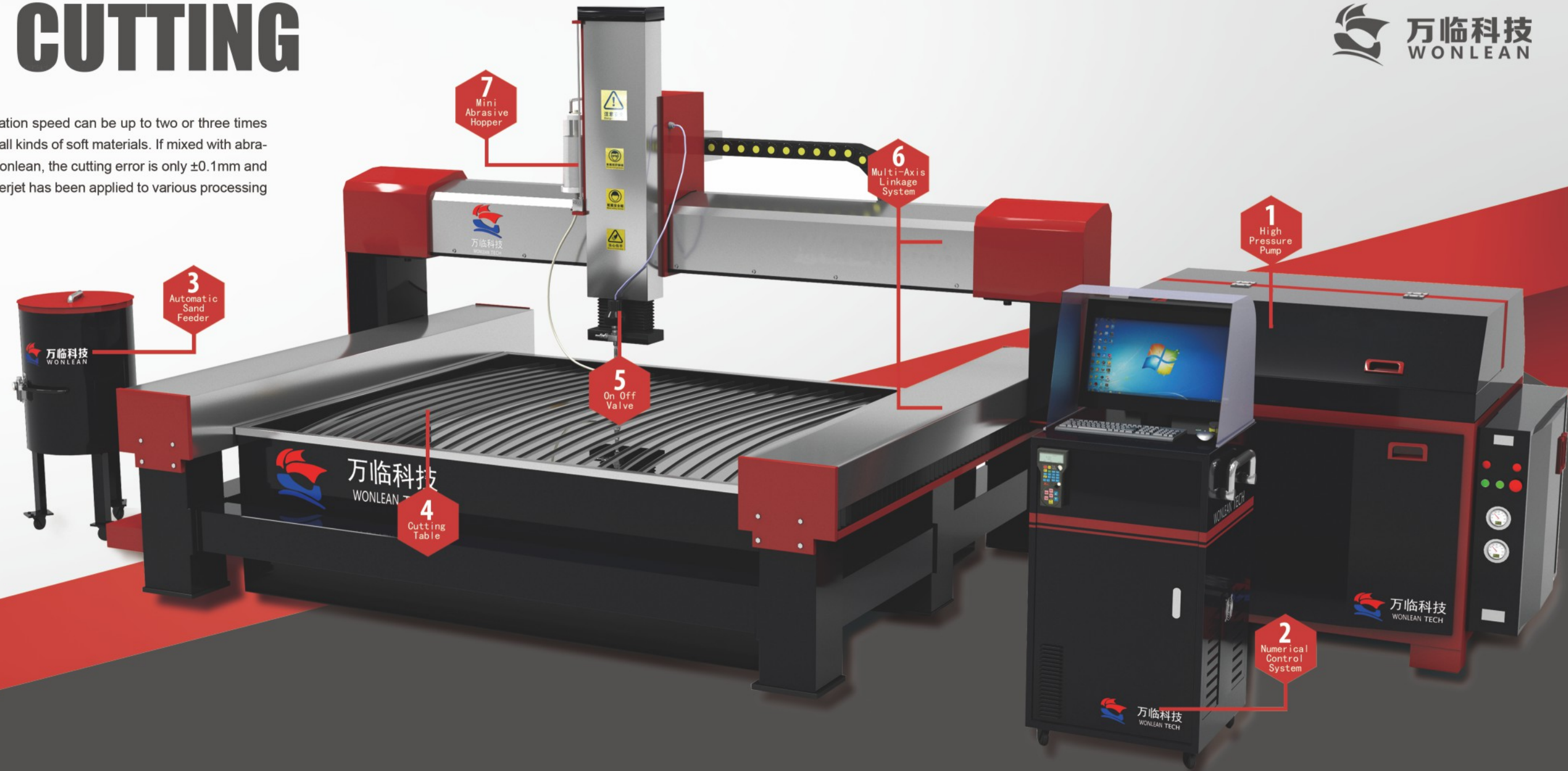
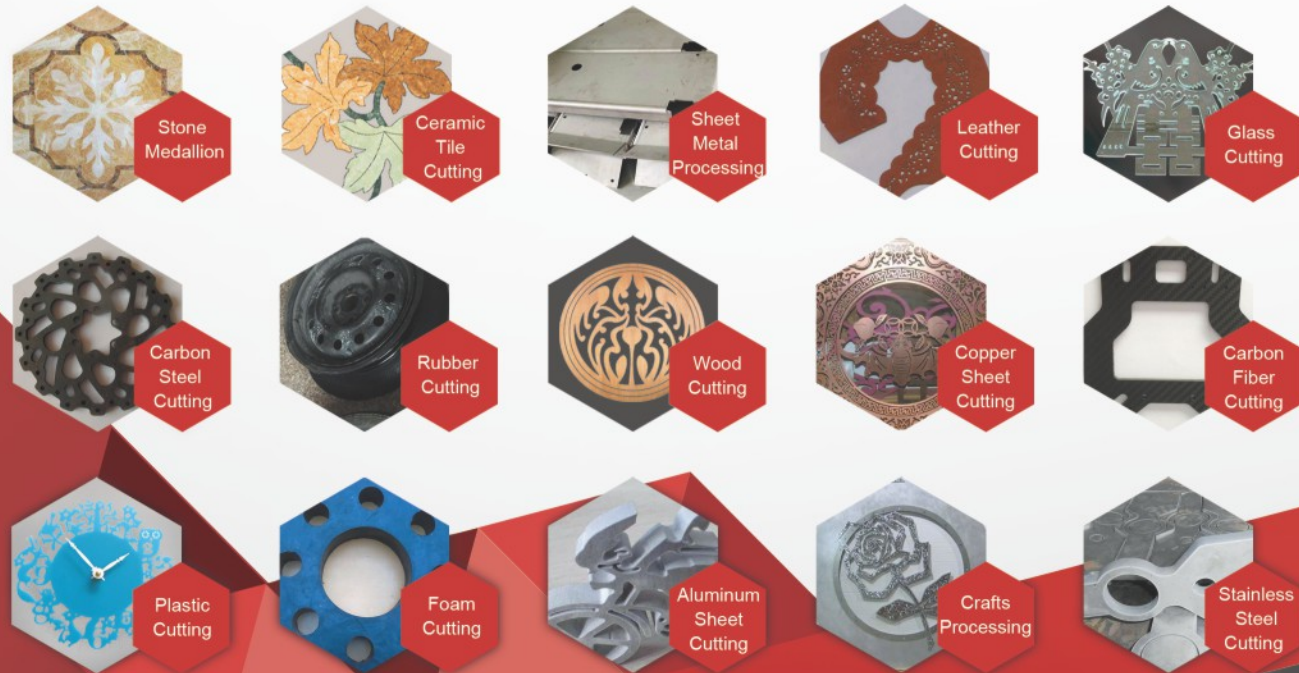
2009	Set up the business division and began to research and develop the waterjet cutting technology	2014	The Wonlean waterjet cutting machine had exported to 25 countries and regions.
2010	Completed the trial cutting successfully for the first waterjet cutting machine.	2015	Reached strategic cooperation with Shenyang Institute of Automation Chinese Academy of Sciences to jointly develop the application of water jet technology in China.
2011	Sold the first waterjet cutting machine successfully.	2016	Invested a large amount of funds to purchase new land with the cover of 20000m ² and constructed the new plant and purchased the equipment to expand the scale of production.
2012	Exported the first waterjet cutting machine and Wonlean waterjet began to spread around the world.	2017	Applied for more than ten patents, and set up the sales development and started direct marketing mode.
2013	The first portable waterjet cutting machine came out.	2018	Settled in the new plant and the number of the company was more than 80 and products had exported to more than 40 countries and regions.

Wonlean Technology-Serve the future with heart!

WONLEAN CNC UHP WATER CUTTING

Through advanced ultra-high pressure supercharging technology of Wonlean, the water can be pressurized above 400Mpa, and the formation speed can be up to two or three times the speed of the sound and the water jet with very high kinetic energy can be formed. This water jet has a strong cutting ability to cut almost all kinds of soft materials. If mixed with abrasive in water jet, the watjet can cut almost all the soft and hard materials. With high-precision CNC intelligent multi-axis linkage system of Wonlean, the cutting error is only $\pm 0.1\text{mm}$ and its strong cutting ability and unique cold cutting characteristics make it safer, more environmentally friendly and more efficient. Wonlean waterjet has been applied to various processing and manufacturing fields, so it also has the reputation of "universal cutting machine".

CUTTING SAMPLE





WL HIGH PRESSURE PUMP

Using the most advanced high-pressure technology and structure, unique double oil circuit design, reducing pressure fluctuation pulse, the cutting efficiency is 20% higher than that of traditional high pressure pump under the same power. It is the most advanced technology of hydraulic booster pump at present.

HIGH PRESSURE PUMP MAIN FEATURES

1

Equipped with the core components of ultra high performance intensifier imported from the US

2

Unique oil circuit design which increases cutting performance by 20%

3

Using the reverse osmosis water purifier for the first time which reduces the failure rate of intensifier by 40%

4

Equipped with high quality Siemens (Beide) three-phase AC asynchronous motor

5

Equipped with automatic variable oil pump to reduce oil temperature while regulating pressure

6

Vane type low pressure water supply pump imported from Italy, which has the advantages of small volume, large water pressure and stable performance

7

Equipped with Japanese OMRON PLC control

8

Equipped with reversing valve, relief valve and cartridge hydraulic valve imported from Japan

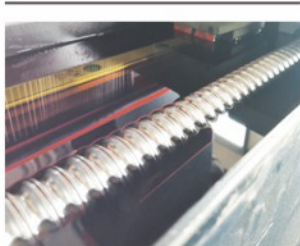
MORE ADVANTAGES

1.Equipped with French Schneider Electric Parts
2.The dustproof and waterproof grade of electric control cabinet reaches IP55 to ensure stable operation under harsh working conditions
3.Equipped with high pressure pipeline imported from the United States
4.Have the function of running over-frequency protection for cylinder piston
5.With low-voltage start-up mode, energy consumption is reduced by 30%.
6.Equipped with cooling oil pump to change the oil return mode and avoid damage to the cooler caused by pulse oil pressure
7Automatic protection function for low pressure water shortage
8.Have the function of overloading and over-current protection of motor.
9.Low-pressure drilling and high-pressure cutting, which can realize automatic conversion of high and low voltage

MAIN TECHNICAL PARAMETERS			
Model	WL30018Z	WL38030Z	WL42037Z
Max. Pressure	300Mpa	380Mpa	420Mpa
Continuous working pressure	260Mpa	340Mpa	380Mpa
Power	18KW	30KW	37KW
Maximum water flow	3.7L/min	3.7L/min	3.7L/min
Maximum nozzle diameter	0.33mm	0.33mm	0.33mm
Working power supply	380V/50HZ		

1

The linear guide and ball screw adopts oil-immersed structure, which fully lubricates and prevents the wear of sand water and prolongs the service life of linear guide and ball screw and ensure the running precision



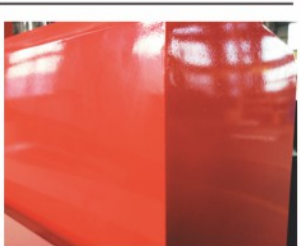
2

The stainless steel cover is equipped with a high-quality dust-proof folding double seal to further prevent the erosion of abrasive and water on the linear guide and ball screw. It is the most advanced sealing method.



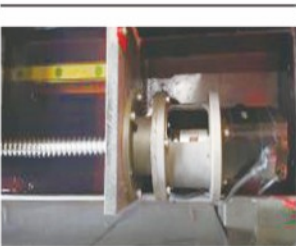
3

The machine body is sprayed with a professional waterproof and anti-corrosion epoxy paint to prevent corrosion caused by long-term splashing.



4

The high-power servo motor is connected directly with the large diameter ball screw to eliminate the deviation of the traditional belt connection and ensure cutting accuracy.



5

Taiwan's high-quality wide-seat linear guides and ball screws ensure cutting accuracy and durability



6

The base of the cutting table is filled with concrete after tempering aging, and the weight is added to eliminate the stress deformation of the cutting table.



7

Using high-quality towline and special cables, it is durable and has more than 1 million bending times.



8

Stainless steel grille table
Integral machining after welding which ensures the overall levelness of the cutting table. Compared with the traditional strip grille, it has high flatness and cutting precision.



TECHNICAL PARAMETERS OF GANTRY CUTTING TABLE

Model	WL2015BA	WL2030BA	WL3020BA	WL2040BA	WL2060BA	WL3060BA
X axis	2000mm	2000mm	3000mm	2000mm	2000mm	3000mm
Y axis	1500mm	3000mm	2000mm	4000mm	6000mm	6000mm
Z axis	150mm	150mm	150mm	150mm	150mm	150mm
Running speed	9000mm/min					
Cutting accuracy	± 0.1mm					
Control precision	± 0.01mm					
Repeat accuracy	± 0.05mm					

WL GANTRY CUTTING TABLE

MAIN FEATURES

The gantry type double-drive structure ensures that the long-stroke X-axis can also have ultra high cutting precision.



1

The linear guide and ball screw adopts oil-immersed structure, which fully lubricates and prevents the wear of sand water and prolongs the service life of linear guide and ball screw and ensure the running precision



2

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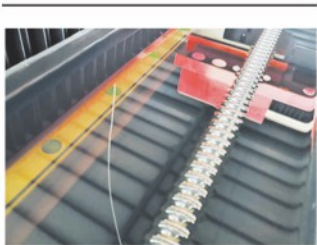
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WL CANTILEVER CUTTING TABLE

MAIN FEATURES

Adopting cantilever structure, the matching precision is high precision and the three sides open cutting table is more convenient to load and unload materials.



TECHNICAL PARAMETERS OF CANTILEVER CUTTING TABLE

Model	WL1020BB	WL1520BB	WL1525BB	WL1530BB	WL1540BB	WL1560BB
X axis	1000mm	1500mm	15000mm	1500mm	1500mm	1500mm
Y axis	2000mm	2000mm	2500mm	3000mm	4000mm	6000mm
Z axis	150mm	150mm	150mm	150mm	150mm	150mm
Running speed	9m/min					
Cutting accuracy	± 0.1mm					
Control precision	± 0.01mm					
Repeat accuracy	± 0.05mm					

WL NUMERICAL CONTROL SYSTEM



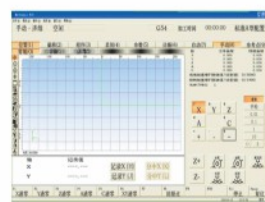
1

Equipped with integrated control wireless operating handle for easy operation



2

Powerful graphics track programming capability, automatic programming setting function
Path simulation function before cutting
Breakpoint continue function



3

Equipped with genuine windows8 operation interface, easy to operate and powerful
Open compatible system, more optional modules



4

User-friendly double-sided handle



5

Bottom roller design which makes it easy to move the console



6

High performance industrial grade control computer



7

Spacious operating table



8

Dust-proof and water-discharging level up to IP55 ensures stable operation under harsh working conditions
Meet the European electrical industry standards



AUSILIARY EQUIPMENT

1



Mini abrasive hopper

The new type of automatic sand valve is sensitive and reliable, which fundamentally solves the problems of sand plugging and sand breaking.

Reliable anti-backwater design and precise sand control structure to avoid abrasive moisture, sand plugging and other faults caused by backwater of cutting head.

Precise control of the amount of abrasive can effectively reduce the waste of abrasive.

2



Automatic sand feeder

Continuous automatic abrasive feeding for the cutting head ensures continuous cutting operation.

No need of electronic control, easy and convenient to operate, and maintenance-free.

Large capacity can provide 8 hours of cutting abrasive.

Low air pressure operation, uniform abrasive volume and stable transportation.

3



On Off Valve, Cutting Head and Cutting Pipeline

New type of cutting head has stronger cutting ability and prolongs the service life of the sand pipe.

Novel switch structure design and pneumatic valve which has sensitive and reliable action.

American original imported sand pipe are of high quality and more durable.

The layout of high-pressure pipeline is reasonable to ensure long-term work without fault.

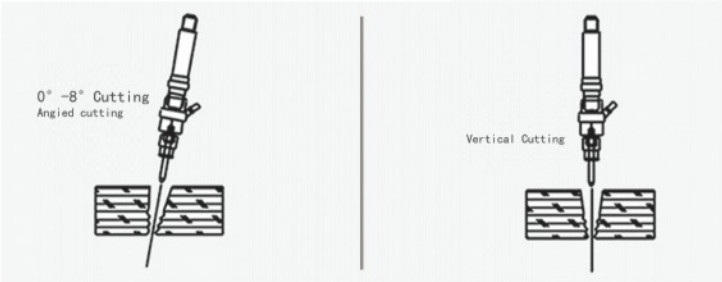
The anti-collision function of automatic lifting cutter prevents the cutting workpiece from colliding with cutting head and greatly reduce the damage of the cutting head.

AB NEW FIVE AXIS

The AB Five-Axis Dynamic Waterjet Cutting System provides the solution to the high quality ceramic stone pattern industry and the metal vertical precision cutting industry. During the cutting process, the jet angle is slightly changed to perform precise compensation to achieve precise cutting of the water jet.

- 1 The main structure is made of aluminum alloy with light weight and high strength. It does not increase the load of X-axis aluminium beam and has high cutting precision.
- 2 Structural rigidity is strong, and the displacement of the cutting pad under 380MPA high pressure water reaction is less than 0.01mm.
- 3 High-power servo motor and precision harmonic reducer are used to make each cutting action accurate in place.
- 4 Adopt professional-grade five-axis waterjet cutting control system, which has high precise control and excellent corner cutting.
- 5 Excellent waterproof performance, completely insulating the erosion of abrasive and water during the cutting process, and can be directly washed with water after processing.

MAIN TECHNICAL PARAMETERS	
Structure of cutting head	AB 5-axis
Skew shaft	8°
Cutting accuracy	±0.15mm
Control accuracy	±0.025mm
Yaw angle adjustment accuracy	±0.1°



AC NEW FIVE AXIS

The AC 5-Axis Dynamic Waterjet Cutting System provides the solution for large angle cutting and planar 3D cutting applications. The unique structure design allows the cutter head to yaw to 45 degrees, and with the high-precision CNC system, the AC five-axis can complete more complex 3D dynamic cutting operations.

- 1.Unique high-pressure pipeline design eliminates the load resistance of the high-pressure pipe, and the movement of cutter head is unobstructed and ensures cutting precision.
- 2.The main structure is made of aluminum alloy with light weight and high strength. It does not increase the load of X-axis aluminium beam and has high cutting precision.
- 3.Structural rigidity is strong, and the displacement of the cutting pad under 380MPA high pressure water reaction is less than 0.01mm.
- 4.Using high-precision servo motor and harmonic reducer to reduce volume and weight, reduce motor power and save energy.
- 5.Fixed rotary joint and high-pressure pipe support structure ensure that the rotary joint rotates stably with the axis center and prolongs its service life.
- 6.The post-processing of operating software is compatible with European IGEMS CAM software, enabling simultaneous 2D and 3D cutting.
- 7.Excellent waterproof performance, completely insulating the erosion of abrasive and water during the cutting process, and can be directly washed with water after processing.

MAIN TECHNICAL PARAMETERS	
Structure of cutting head	AC 5-axis
Skew shaft	45°
Cutting accuracy	±0.15mm
Control accuracy	±0.025mm
Yaw angle adjustment accuracy	±0.1°
CNC system	Shanghai Weihong

